

REMARKS

Reconsideration and removal of the grounds for rejection are respectfully requested.

Claims 1-6, 10-17, 19-20 and 22-28 were in the application, claims 1-6, 10-17, 19, 20 and 22-28 have been cancelled and new claims 29-50 have been added. A Declaration under 37 CFR 1.132, signed by the inventor, Mr. Johan C. Fitter is also enclosed. For the examiners' convenience, applicants' best copies of the cited Japanese patents are included herewith.

Independent claims 29, 42 and 43 each recite that the charge dependant impeding means has a constituent thereof attached or bonded to the negative electrode. Support for this is found on page 18, last three lines. Also, the claims positively recite that there are substantially no charge limiting effects below the gassing charge and also during the discharge cycle, as stated on page 24, lines 1-10.

Claims 22 and 26 were objected to as failing to further limit the subject matter of a previous claim. Claims 22 and 26 have been replaced by new claims 37 and 38, each of which distinctly limits the charge dependant impedance means of claim 29 and it is believed that this objection is now moot.

Claims 1, 2, 6, 10-13, 15-17, 20 and 22-27 were rejected as being anticipated by JP10-302785A (JP'785).

To have anticipation, each and every element of the claim must be found in a single prior art reference. W. L. Gore & Assoc., Inc. v. Garlock, Inc. 220 USPQ 303 (Fed. Cir. 1983). All the limitations in the claims must be found in the reference, since the claims measure the invention. In re Lange, 209 USPQ 288, 293 (CCPA 1981). The Federal Circuit has also stated that "even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it is not enabling". In re Donohue, 766 F.2d 531, 533 (Fed. Cir. 1985) (citing In re Borst, 345 F.2d 851, 855 CCPA 1965), cert denied, 382 U.S. 973 (1966).

The applicant's invention, as represented by new independent claims 29, 42 and 43, is not anticipated by JP'785. Each of these claims each require charge dependant impeding means to be disposed in an aqueous electrolyte. They further require the charge dependant impedance means to have a constituent thereof bonded to or attached to the negative electrodes. (See P. 18, L. 23-25 and P. 20, L. 2-6).

While the translation of JP'785 is somewhat poor, there is no question that the disclosure relates to inclusion of a fatty acid, preferably stearic acid or its salt, within the negative electrode active material. Paragraph 009 describes eight kinds of pastes produced which had the fatty acid at 0 to 5% by weight. Just as an aside, such anodes are usually constructed with a hollowed out honeycomb, with the openings filled with anode active material as a paste filler, which solidifies to produce the anode. Consequently, the fatty acid can only be added during construction of the anode prior to assembly with the other components of the battery, being confined within the anode itself.

Note in paragraph 011, with reference to Table 3 that over 0.05%, there is a drop off in high rate discharge capacity. Amounts of 0.1, 0.2, 0.5 and 1% all had significant effects on the discharge cycle. Further, according to paragraph 0014, water loss is still fairly high in cell numbers 10-16 where evidently "some fatty acids eluted and disappeared from the negative electrode material...". The loss of this material clearly shows a lack of permanence to the effect.

There can be no anticipation, as the applicants' invention does not include a fatty acid in a negative electrode active material, but rather, charge dependant impeding means disposed in an aqueous electrolyte, the charge dependant impeding means being deactivated and having substantially no effect on the discharge cycle. (See claims 29, 42 and 43).

In addition, no such fatty acid "film" is believed formed in accordance with the applicant's invention. Rather, there is a barrier formed by a constituent of the charge dependant impeding means, shown as a "head" attachment or bonding to the negative electrode and a "tail" disposed within the electrolyte, best illustrated in Fig. 6. This permits normal operation of the electrochemical cell during the charging portion, up to the gassing charge, and during the discharge cycle, the charge dependant means acting as a switch when activated so as to be effective in preventing ion infiltration only when a gassing charge occurs during the charging cycle. Incorporating the charge dependant impeding means in the electrolyte provides a unique structural barrier to avoid gassing at the negative electrodes, distinct from the alleged fatty acid film formed by incorporating a fatty acid into the negative anode active material paste, during construction of the anode.

Enclosed with this response is a Declaration by the inventor, Mr. Johan C. Fitter, submitted under 37

CFR 1.132. This Declaration discusses the cited patent and reviews the nature of the constituent attachment as relating to the provision of "charge dependant" impeding means in accordance with the present invention. Also included is literature which describes this type of attachment, which confirms the structural distinction of the present invention over the cited patents.

As each and every element of new independent claims 29, 42 and 43 are not found in the cited references, these claims and the claims dependant therefrom are not anticipated by JP'785.

Claims 1-6, 10-17, 19-20 and 22-27 were rejected as being anticipated by JP50-091728 (JP'728).

JP'728 is directed to the use of a benzyl group containing quaternary ammonium salt added to the anode active material mass and/or electrolytes in alkaline batteries. The example describes use of 3 % dodecyldimethylbenzylammonium chloride in 30 % KOH.

The present claims are directed to use of charge dependant impeding means disposed in an aqueous electrolyte for impeding a gassing charge and having substantially no effect on the charging cycle below the gassing charge or during the discharge cycle. As discussed in Mr. Fitters' Declaration, the quantities used in JP '728 would not provide such charge dependant impeding means, and as each and every element of these claims are not found in the cited patent, the claims are not anticipated thereby.


Claim 28 was rejected as being anticipated by JP01-267965 A (JP'965). Without admitting the correctness of the rejection, claim 28 has been cancelled, rendering moot the rejection. Further, the high quantities of the compound used to suppress lead ions in the electrolyte, as illustrated by the table in the patent, cannot provide the necessary constituent attachment as required in the present claims, and no charge dependant impeding means are present inherently in this patent.

Claims 1-3, 6, 10-17 and 19-28 were provisionally rejected for obviousness type double patenting over claims 11, 15 and 16 of U.S. publication number 2002/0038765. In view of the cancellation of these claims and provision of new claims it is believed that the rejection has been rendered moot, as the presently claimed invention, requiring specific charge dependent impeding means, are not believed to be obvious over the cited publication claims.

Based on the above amendment and remarks, favorable consideration and allowance of the application is respectfully requested. However should the examiner believe that direct contact with the applicant's attorney would advance the prosecution of the application, the examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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